

REMARKS

Claims 1-3 and 18-35 are pending in the application. The Applicants have amended Claim 1 and cancelled Claim 21, without prejudice, to particularly point out and distinctly claim the subject matter that they regard as their invention. Support for the present amendments is found throughout the specification and claims, as originally filed.

Claim Objections

The Examiner has objected to Claim 3 for its dependency upon itself. The Applicants respectfully direct the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicants have amended Claim 3 to recite a proper dependency. In light of the present amendments, the Applicants respectfully request reconsideration and withdrawal of the objection to Claim 3.

Rejection under 35 USC § 112, Second ¶

The Examiner has rejected Claim 21 under 35 USC § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner's attention is respectfully directed to the "Amendments" section of the instant paper, in which the Applicants have cancelled Claim 21, in favor of incorporation of the subject matter disclosed therein into amended Claim 1. The Applicants reserve the right to reinstate Claim 21, or the subject matter thereof in a separate, dependent claim, prior to close of prosecution. Reconsideration and withdrawal of the rejection to Claim 21 under 35 USC § 112 are therefore respectfully requested.

Rejection under 35 USC § 103(a) over Fowler in view of Schulein

The Examiner has rejected Claims 1-3 and 18-35 under 35 USC § 103(a) as allegedly obvious over US Patent Number 6,268,196 to Fowler et al (hereinafter "Fowler") in view of US Patent Number 6,117,664 to Schulein et al (hereinafter "Schulein"). The Examiner's rejection is respectfully traversed. The Examiner's attention is respectfully directed to the "Amendments" section of the instant communication, in which the Applicants have amended Claim 1 and cancelled Claim 21, without prejudice, only to obviate the present rejection. In light of the present amendments, the Applicants submit that Fowler in view of Schulein neither teach nor suggest a modified enzyme comprising a catalytically active amino acid sequence of a cellulolytic enzyme EGI linked to an amino acid sequence comprising a Cellulose Binding Domain, via employment of a specific linking region, suitable sources of which are now set forth in amended Claim 1. Rather, Fowler fails to teach or suggest an amino or non-amino acid linking region for use in the present invention. Reconsideration and withdrawal of the rejection to Claims 1-3, 18-21 and 23-35 under 35 USC § 103(a) are therefore respectfully requested.

CONCLUSION

Attached hereto at the conclusion of this communication is a separate sheet entitled "Version With Markings Indicating Changes Made." Applicants have made an earnest effort to place the present claims in condition for allowance. WHEREFORE, entry of the amendments provided herewith, reconsideration of the claims as amended in light of the Remarks provided, withdrawal of the claims rejections, and allowance of Claims 1-3 and 18-20 and 22-35, as amended, are respectfully requested. In the event that issues remain prior to allowance of the noted claims, then the Examiner is invited to call Applicants' undersigned attorney to discuss any remaining issues.

Respectfully submitted,

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VERSION WITH MARKINGS INDICATING CHANGES MADE

Claim 1. A modified enzyme which comprises a catalytically active amino acid sequence derived from a cellulolytic enzyme EGI exhibiting the following properties:

- (e) derived from *Humicola insolens* or *Trichoderma reesei*,
- (f) approximate molecular weight of about 50 kDa,
- (g) Iso-electric point of 5.5, and
- (h) containing 415 amino acid;

linked to an amino acid sequence comprising a cellulose binding domain;

wherein said modified enzyme comprises a linking region between said catalytically active amino acid sequence of a cellulolytic enzyme EGI and said amino acid sequence comprising a cellulose binding domain; further wherein said linking region is selected from the group consisting of: *Humicola insolens* family 45 cellulase linker, Nifa gene of *Klebsiella pneumoniae*-CIP linker, *E. coli* OmpA gene-CIP linker, E3 cellulase *Thermomonospora fusca* linker, CenA cellulase linker, nucleophilic polyethylene glycol derivative linker, carboxyl polyethylene glycol derivative linker, electrophilically activated polyethylene glycol derivative linker, sulfhydryl-selective polyethylene glycol derivative linker, hertofunctional polyethylene glycol derivative linker, biotin polyethylene glycol derivative linker, vinyl polyethylene glycol derivative linker, polyethylene glycol silane derivative linker, polyethylene glycol phospholipid derivative linker and mixtures thereof.

Claim 3. A modified enzyme according to ~~claim 3~~ claim 1 wherein the amino acid sequence comprising a cellulose binding domain is selected from CBD family 45 from *Humicola insolens*, CBD CenC from *Cellulomonas fimi* and/or CBD Cellulozyme from *Clostridium cellulovorans*.